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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/454,135	12/03/99	KATAOKA	S 3688ME-25

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EXAMINER

VO, T

ART UNIT

PAPER NUMBER

2821

DATE MAILED:

10/25/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
09/454,135

Applicant(s)  
KATAOKA ET AL.

Examiner  
Tuyet Vo

Group Art Unit  
2821



☒ Responsive to communication(s) filed on 12/03/1999.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 1-29 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☒ Claim(s) 25-29 is/are allowed.

☒ Claim(s) 1, 2, 4-21, 23, and 24 is/are rejected.

☒ Claim(s) 3 and 22 is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on 3 Dec 1999 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been  
☒ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

## DETAILED ACTION

### *OATH/DECLARATION*

The declaration filed December 03, 1999 is acceptable.

### *PRIORITY*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *INFORMATION DISCLOSURE STATEMENT*

The references cited on PTOL 1449 have been considered.

### *DRAWINGS*

The drawings filed December 03, 1999 are objected by Notice of Draftperson's Patent Drawing Review.

1. *Figure 47 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).*

### *SPECIFICATION*

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

## ***CLAIM REJECTIONS***

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 8, 9, 11, 12, 15-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5, lines 7-10, a phrase "said separate-excitation oscillator...said trigger input circuit...said separate-excitation/self-excitation selection switch circuit" lacks an antecedent basis. This claim may be referred to claim 3 instead of claim 1 or 2.

Claim 8, lines 2 and 3, a phrase "said separate-excitation oscillator" and line 6, a phrase "the LC resonance circuit" lack antecedent bases.

Claim 9, line 2, a phrase "said trigger input circuit" lacks an antecedent basis.

Claim 11, line 8, a phrase "said separate-excitation oscillator" and lines 10 and 11, a phrase "the resonance frequency of said LC resonance circuit" lack antecedent bases.

Claim 12, line 13, a phrase "the resonance frequency of said LC resonance circuit" lacks antecedent basis.

Claim 15, line 7, a phrase "said separate-excitation oscillator" and lines 9 and 10, a phrase "the resonance frequency of said LC resonance circuit" lack antecedent bases.

Claim 16, line 7, a phrase "said separate-excitation oscillator" lacks antecedent basis.

Claim 17, line 7, a phrase "said separate-excitation oscillator" lacks antecedent basis.

Claim 18, lines 8 and 9, a phrase "said trigger input circuit...said separate-excitation/self-excitation selection switch circuit" lack an antecedent bases.

Claim 19, line 7, a phrase "said separate-excitation oscillator" lacks antecedent basis.

Claim 20, line 7, a phrase "the resonance frequency of said resonance circuit" lacks antecedent basis.

Claim 21, line 5, "the resonance frequency of said LC resonance circuit" lacks antecedent basis.

Appropriate correction or clarification is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al. (US Pat. 5,781,418), hereinafter Chang.

Chang discloses a fluorescent lamp lighting apparatus comprising:

a DC-voltage generating circuit for generating a DC voltage (V),

a drive-signal generation circuit (A) for generating and outputting desired high-voltage-side (108) and low-voltage-side (106) pulse signals by using the DC voltage (V) from said DC-voltage generation circuit (A), and

a drive control circuit having switching means (Q1, Q2) driven by the pulse signals

input from said drive-signal generation circuit to output a drive signal across the output terminals thereof, wherein a resonant circuit and the filament electrodes of the fluorescent lamp light-emitting tube (B) are connected the output terminals of said switching means.

5. Claims 1, 2, 4, 6-8 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoon (US Pat. 5,977,723).

Regarding claims 1, 2 and 4, Yoon discloses a ballast circuit (Fig. 4) for a fluorescent lamp comprising:

a DC-voltage generating circuit (101) for generating a DC voltage,

a drive-signal generation circuit (102A) for generating and outputting desired high-voltage-side (H) and low-voltage-side (L) pulse signals by using the DC voltage from said DC-voltage generation circuit (101), and

a drive control circuit (102) having switching means (Q1, Q2) driven by the pulse signals input from said drive-signal generation circuit to output a drive signal across the output terminals thereof, wherein a resonant circuit (L2, C7) and the filament electrodes (H1, H2) of the fluorescent lamp (104) are connected the output terminals of said switching means (Fig. 4).

6. Regarding claims 6-8 and 19, Chang discloses substantially the claimed invention as noted above and further teaches implicitly the drive control circuit (120) establishes a circuit that determined the frequencies gradually changed toward the resonance frequency of a resonance circuit (col. 6, lines 26-31) at the time of non-lighting of said tube. The frequency determined by a time constant which is  $1.4R_2C_5$  C (col. 5, lines 10- 56) indicating the period from power on to the switching of the output signal is shortened as the ambient temperature rises, wherein C is a starting capacitor which determined voltage level supplied to the lamp by switching on the switches (Q1, Q2)

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 10 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Chang.

Chang discloses substantially the claimed invention as noted above except for the drive-signal generation circuit control the low-voltage side under-voltage lockout circuit operating earlier than the low-voltage side under-voltage lockout circuit.

Since a timer circuit is well known in the art in that it used to determine a time period for operating a switching transistor circuit (half inverter), one having ordinary skill would utilize a timing circuit to manipulate the switching time duration for inverter for a particular application. Such modification involves only as a routine skill in the art.

***Allowable Subject Matter***

9. Claim 25-29 are allowed.

10. Claims 5, 9, 11-18, 20, 21,23 and 24 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112 set forth in this office action and to include all of the limitations of the base claim and any intervening claims. These claims would be allowable because the prior art reference does not disclose a separate-excitation/self-excitation selection switch circuit, high-voltage-side pulse generation circuit having a high-voltage-side dead time generation

circuit, a low-voltage-side pulse generation circuit having a low-voltage-side dead time generation circuit, and under-voltage-lockout circuit for outputting an output signal when the voltage of the power source is a predetermined voltage in a manner as described in claims.

11. Claims 3 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: the prior fails to establish a drive-signal generation circuit including a timer circuit, a separate-excitation/self-excitation selection switch circuit, high-voltage-side pulse generation circuit having a high-voltage-side dead time generation circuit, a low-voltage-side pulse generation circuit having a low-voltage-side dead time generation circuit, and under-voltage-lockout circuit for outputting an output signal when the voltage of the power source is a predetermined voltage in a manner as described in claims 3 and 22, and the drive-signal generation circuit further includes a first and second drive signals having a frequency changed with the passage of time, and at least passes through the resonance frequency of the resonance circuit network in a non-lighting state as detail described in claims 25 and 26.

*Citation of pertinent prior art*

13. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Ribarich et al. (US Pat. 6,031,342) disclose universal input warm-start linear ballast.

Nadd (US Pat. 5,828,184) discloses a lamp ballast circuit.

Wood (US Pat. 5,612,597) discloses a circuit and method for driving a gas discharge lamp.



Quazi (US Pat. 5,581,158) discloses a lamp brightness control circuit with ambient light compensation.

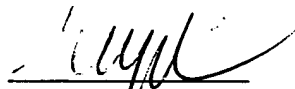
**CONCLUSION**

Any inquiry concerning this Office Action from the examiner should be directed to Examiner Tuyet Vo whose telephone number is (703) 306-5497.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Papers related to Group Art Unit 2821 applications only may be submitted to Group Art Unit 2821 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT."

The Fax Center number is (703) 308-7722.



*Tuyet Vo*

*Examiner*

*Art Unit 2821*

October 18, 2000

Haissa Philogene  
Primary Examiner  
A.U. 2821  
